



Gregory L. Geist
Director

February 24, 2022

Board of County Commissioners
Clackamas County

Members of the Board:

Approval of Amendment #5 to the Contract 1652 with Murraysmith, Inc. for 2019-55 Pump Station Rehabilitation and Upgrades Project for the Bolton, River Street, and Clackamas Pump Stations. Fiscal Impact is \$476,942 through WES Capital Improvement Funds.

No County General Funds are involved - Procurement

Purpose/Outcome	Approval of Amendment #5 to the Contract 1652 with Murraysmith, Inc. for 2019-55 Pump Station Rehabilitation and Upgrades Project for the Bolton, River Street, and Clackamas Pump Stations. Fiscal Impact is \$476,942 through WES Capital Improvement Funds. No County General Funds are involved - Procurement
Dollar Amount and Fiscal Impact	Amendment #5 will increase contract by \$476,942.00 for a Total Contract Value of \$2,131,706.00.
Funding Source	WES Capital Improvement Funds. No County General Funds are involved
Duration	From execution through December 30, 2024.
Previous Board Action/Review	BCC Approval of a Contract with Murraysmith, Inc. for the Pump Station Rehabilitation and Upgrades on November 14, 2019. This item presented at Issues on February 22, 2022.
Strategic Plan Alignment	<ol style="list-style-type: none"> 1. This project supports the WES Strategic Plan to provide Enterprise Resiliency, Infrastructure Strategy and Performance and Operational Optimization by addressing deficiencies and reduced capacity; increasing reliability and operational efficiencies. 2. This project supports the County Strategic Plan of building a strong infrastructure that delivers services to customers.
Counsel Review	<ol style="list-style-type: none"> 1. Date of Counsel review: February 14, 2022 2. Initials of County Counsel: Amanda Keller
Procurement Review	Was the item processed through Procurement? Yes.
Contact Person	Jessica Rinner, Civil Engineering Supervisor, 503-742-4551
Contract No.	1652

BACKGROUND:

Clackamas Water Environmental Services (WES) has identified seven of its pump stations (PS) in need of improvements to increase reliability, safety and operational efficiency. After the schematic design phase was completed for the original group of pump stations, WES requested that the project be expanded to include an evaluation and schematic design development to address deficiencies at two additional pump stations (River Street and Bolton) and corroded valves in the force mains. The schematic design work for the additional pump stations was completed under Contract Amendment 4.

This amendment includes the following additional scope:

- Additional schematic design scope at Bolton PS for new pump configuration
- Final design and bid documents for Bolton and River Street PSs
- Early procurement packages for long lead items for Bolton PS
- Final design and bid documents for valve replacements
- No cost change to permitting scope
- Hydraulic analysis at Clackamas PS to assess impact of pumping to Clackamas Interceptor rather than Withycomb PS (to be abandoned)
- Project management and Quality Control Review for the additional scope
- Bid phase services for Bolton and valve replacements
- Engineering services during construction for valve replacements.

PROCUREMENT PROCESS:

This Amendment is in accordance with LCRB C-047-0800(a) for an anticipated amendment.

RECOMMENDATION:

Staff recommends the Board approve the Approval of Amendment #5 to the Contract 1652 with Murraysmith, Inc. for 2019-55 Pump Station Rehabilitation and Upgrades Project for the Bolton, River Street, and Clackamas Pump Stations. Fiscal Impact is \$476,942 through WES Capital Improvement Funds. No County General Funds are involved - Procurement

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Greg Geist", with a long horizontal flourish extending to the right.

Greg Geist
Director, WES

PROCUREMENT



RECORDING MEMO

New Agreement/Contract

Amendment/Change/Extension

Other: _____

Originating County Department: _____

Purchasing for: _____

Other party to contract/agreement: _____

Title from Business Meeting Agenda:

After recording please return to:

Clerk to the Board please complete below this line after Board approval _____

Board Agenda Date: _____

Agenda Item Number: _____

AMENDMENT #5
TO THE CONTRACT DOCUMENTS WITH MURRAYSMITH, INC. FOR 2019-55 PUMP
STATION REHABILITATION AND UPGRADES
Contract #1652

This Amendment #5 is entered into between Murraysmith, Inc. (“Contractor”) and Water Environment Services (“District”) and shall become part of the Contract documents entered into between both parties on November 14, 2019 (“Contract”).

The Purpose of this Amendment #5 is to make the following changes to the Contract:


1. ARTICLE I, Section 1. Effective Date and Duration is hereby amended as follows:
The Contract expiration date hereby changed from December 31, 2023 to December 30, 2024.
2. ARTICLE I, Section 2. **Scope of Work** is hereby amended as follows:
District has requested Contractor to provide additional schematic design and final design work for the Bolton Pump Station, River Street Pump Station, and Clackamas Pump Station. It will also include bid phase services for the added projects and construction phase services for the CARV Vault and Intertie valve replacement project. The supplemental Scope of Work and associated fee schedule is attached as **Exhibit G** and hereby incorporated by reference.
3. ARTICLE 1, Section 3. **Consideration** is hereby amended as follows:
Compensation for design work for the Bolton Pump Station, River Street Pump Station, CARV Vault along with the construction engineering services for the CARV Vault and Intertie pump is authorize for \$476,942.00. The total Contract consideration shall not exceed \$2,131,706.00.

ORIGINAL CONTRACT	\$ 238,771.00
AMENDMENT #1	Allow Travel and other Expense
AMENDMENT #2	\$ 19,992.00 + Time Extension
AMENDMENT #3	\$ 1,349,710.00 + Time Extension
AMENDMENT #4	\$ 46,291.00
<u>AMENDMENT #5</u>	<u>\$ 476,942.00</u>
TOTAL AMENDEd CONTRACT	\$ 2,131,706.00

Signature Page Follows

Except as expressly amended above, all other terms and conditions of the Contract shall remain in full force and effect. By signature below, the parties agree to this Amendment #5, effective upon the date of the last signature below.

Murraysmith, Inc.

 2022.02.10
18:37:47-08'00'

Authorized Signature Date

Adam Crafts

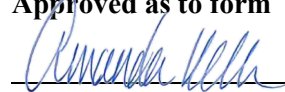
Printed Name

Water Environment Services

Chair

Recording Secretary

Approved as to form

 2/16/22

County Counsel Date

EXHIBIT G

SCOPE OF WORK

PUMP STATION REHABILITATION AND UPGRADES

FINAL DESIGN, PERMITTING, AND BIDDING SERVICES PHASE FOR BOLTON AND RIVER STREET PUMP STATIONS CLACKAMAS WATER ENVIRONMENT SERVICES

Introduction

Clackamas Water Environmental Services (WES) has prioritized several of its pump stations (PS) in need of improvements to increase reliability and operational efficiency. After the schematic design phase was completed, WES requested that the project be expanded to include an evaluation and schematic design development to address deficiencies at the River Street and Bolton pump stations. This work was completed under Contract Amendment 4.

Beyond the original scope of work, further evaluation for alternative pumping and piping configurations was completed for the Bolton PS to identify the most efficient way to pump the wide variety of flows between the dry and wet weather seasons. The existing pump configuration included two small pumps for regular operation and one large pump for peak flow events. However, this configuration does not provide redundancy for peak flows with only one large pump and needed to be revised. WES wanted to review options for the new pump configuration to ensure they comply with HI Standards.

The primary recommended improvements identified at both Bolton and River Street pump stations included HVAC, controls, and metering upgrades. Bolton PS also included new pumps and variable frequency drives (VFD) upgrades to address the reduced capacity that resulted from the force main realignment. There is also a critical need to replace severely corroded combination air release valves (CARV) and inoperable emergency intertie valves on the Bolton and River Street force mains.

The improvements at Bolton PS and the valve replacement work are prioritized because of the need to recover the Bolton pump station's original firm capacity and concerns with the reliability of the valves. Therefore, the order of pump station projects outlined in the Schematic Design report will be changed to deliver the Bolton PS and valve replacement projects on a fast-tracked schedule that will be completed ahead of the other pump stations. This includes a separate project to replace the CARV and intertie valves, an early procurement package for the long lead equipment at Bolton PS (pumps, VFD's and control panels) and a separate construction project to install the equipment and other improvements at Bolton PS.

In addition to the design work added for the Bolton PS and River Street PS, additional evaluation and design work was requested for the Clackamas PS. This include a hydraulic evaluation of the piping and force main connected to the Withycombe PS and Clackamas Interceptor to confirm that the existing firm capacity could be met when pumping to the Clackamas Interceptor. Operations staff also asked for additional piping in and around the valve vault be replaced due to minor leaks recently starting after the initial evaluation was completed on the pump station and, therefore, not included in the original design scope of work.

This amendment provides services for the additional schematic design and final design work described above for the Bolton PS, River Street PS, and Clackamas PS. It will also include bid phase services for the added projects and construction phase services for the CARV Vault and Intertie valve replacement project.

Task numbering is a continuation from the original contract's scope of work. Construction phase services is a new task that was not originally included in contract. The same general assumptions and District provided services noted in the original scope of work are still applicable unless amended herein.

General Assumptions

- Design of improvements for two (2) additional PS (River Street PS and Bolton PS) will be added to the current seven (7) that are under contract for design services.
- Design of the replacement of two (2) combination air release valves and intertie valve assembly on the River Street and Bolton force mains (FM) and improvements to the vault will be completed and bid as a separate project.
- All nine (9) PS will be completed and grouped into five (5) bid sets as follows.
 - Bid Set No. 1: River Street and Bolton FM CARV and Intertie Improvements
 - Bid Set No. 2: Bolton PS
 - Bid Set No. 3: Clackamas, Timberline Rim, and River Street PS (Group 1)
 - Bid Set No. 4: Gladstone and Sieben Lane PS (Group 2)
 - Bid Set No. 5: South Welches, Golf Club Terrace, and 82nd Drive PS (Group 3)

District Provided Services

District will provide:

- Construction management and daily inspection for construction projects
- Obtain permits and pay fees required for construction of improvements. This may be right of way permits or trade/building permits.

Consultant Provided Services

Task 1 - Project Management (Existing Task Amended)

Objective

Provide additional leadership, team coordination, and project controls for the additional design work and increased contract time. Complete monthly earned value tracking to monitor project health.

Consultant shall:

- Perform additional team coordination
- Coordinate with District for design input or decisions in between design submittals.
- Document key decisions in decision log.
- Prepare invoices, progress reports, and track earned value.

Deliverables

- Decision Log
- Monthly invoices with progress report, task-level budget report
- Monthly schedule update

Assumptions

- Contract Time is extended from December 31, 2023 to December 31, 2024 to accommodate the new schedule for the additional projects.

Task 2 – Facilities Evaluation (Existing Task Amended)

Objective

Evaluate the capacity available from the Clackamas pump station pumps while pumping toward to the Clackamas Interceptor. Identify improvements needed to maintain a firm capacity of 2.1 MGD while operating in this configuration.

Consultant Shall:

- Estimate a system curve for the Clackamas PS when it is pumping to the Clackamas Interceptor. Identify piping constrictions in the site piping that may negatively impact the PS's firm capacity when operating in this configuration.

Deliverables

- System curve of existing conditions with email summary of findings and recommended improvements needed to maintain the required capacity.

Task 4 – Develop, Present, and Select Alternatives (Existing Task Amended)

Objective

Further develop and evaluate alternative pump and piping configurations for pump options at Bolton PS. Consider potential impacts these pump options have on current pump station operations. Confirm the pump options conform to Hydraulic Institute (HI) standards for pump cycling times based on the projected flow rates and existing wet well volume. Present a cost-benefit summary for each alternative to WES for consideration.

Consultant shall:

- Review and characterize influent flow meter data.
- Evaluate alternative pump sizes and combinations for a three-pump system to identify the possible range of pumping rates available while maintaining the PS firm capacity.
- Review pump cycle times for the alternatives relative to HI Standards
- Outline the benefits and costs for each feasible alternative.

Deliverables

- Discussion on pumping alternatives and recommendations in the schematic design memo for Bolton PS.

Task 5 – Complete Schematic (30%) Design (Existing Task Amended)

Objective

Update Bolton Schematic Design Technical Memo (TM#2) with information developed from Task 4.

Consultant shall:

- Submit second draft TM#2 to outline improvements and implementation plan with added discussion on pumping alternatives.
- Finalize TM#2 with WES comments incorporated.

Deliverables

- Revised TM#2 outlining the selected pumping confirmation and related schematic design and cost for the Bolton Pump Station.

Task 6 – Quality Management (Existing Task Amended)

Objective

Provide additional internal quality assurance/quality control (QA/QC) reviews for the additional design of the River Street PS improvements, Bolton PS improvements, and the CARV vault and FM intertie replacement. Reviews shall be performed by staff independent of the design team.

Consultant shall:

- Provide additional QA/QC for the design of the River Street and Bolton PS improvements and the CARV vault and FM intertie replacement.

Deliverables

- Quality review forms used during internal quality reviews

Task 7 – Prepare 60% Design Development Documents (Existing Task Amended)

Objective

This task will advance the Schematic Design improvements for the River Street and Bolton PS. The 60% documents shall include Divisions 0 and 1, equipment, materials, and common details, standardized across bid packages, specifications for major equipment, and depict the final location and size of major components and systems.

In addition, this task will prepare a draft bid package for the Bolton and River Street force main CARV and Intertie replacement project that includes anticipated plans, specifications, and estimate.

Specific activities for each pump station are listed below.

Consultant shall:

Specific Activities for Bolton Pump Station

- Prepare early procurement packages for the pumps, VFD's, and Control Panel equipment.
- Design electrical and controls improvements to accommodate the new VFD's and control panel that will be procured by WES. Relocate transducer and float cables to be reached from the wet well platform.
- Design pump, check valve and piping replacement between the suction and discharge plug valves. The existing header piping and force main will remain. Reconfigure piping to add a magnetic flow meter and new swing check valve in a horizontal alignment.
- Design new supply fan with penthouse louver and monitoring instruments to declassify space in accordance with NFPA 820. Prepare structural framing and architectural flashing details to retrofit the louver onto the existing metal roof.
- Design new pump VFD cabinets for new pumps.
- Reconfigure existing chemical tanks, piping, and controls to accommodate new pumps.
- Design new wet well inspection platform to replace existing platform in the same location and size.
- Specify new LED interior overhead lights in the building, front entrance and wet well.
- Specify wet well concrete rehabilitation and corrosion proof coating.
- Size and specify new one and a half-ton hoist in electrical room to accommodate new pumps. Verify crane capacity and replace or strengthen if needed.
- Design coating repair for expose piping in the CARV Vault 1 and 2.

Specific Activities for River Street Pump Station

- Design and place a new control panel and level control systems. Relocate transducer and float cables to be reached from the wet well platform.
- Reconfigure pump discharge piping to add magnetic flow meters on each pump's vertical piping, three (3) total.
- Design new supply fan and monitoring instruments to declassify space in accordance with NFPA 820.
- Design and specify new LED explosion proof light in the wet well.

Specific Activities for CARV / Intertie Improvements

- Design valve replacement at the force main intertie.
- Design a vault retrofit and CARV replacement for the River Street and Bolton Pump Station force mains at CARV 4.
- Coordinate and identify bypass pumping and hauling of sewage requirements in the technical specification needed to accommodate force main shutdowns.
- Prepare a complete draft submittal package for WES review.

Deliverables

- Draft Drawings for the Bolton and River Street Force Main CARV Vault and Intertie replacement. See attached Drawing List in Attachment A.
- 60% Design Development Drawings for Bid Set Two – Bolton Pump Station and River Street plans to Bid Set Three. See attached Drawing List in Attachment A.
- Equipment Data Sheets and Technical Specifications for new major equipment for Bolton and River Street pump stations.
- Draft complete set of technical specifications for the CARV Vault and Intertie improvements.
- 60% Construction Cost Estimate and bid item list for the additional bid sets.
- 60% Construction Sequence Narrative and Duration Estimate for the additional bid sets.
- Meeting agenda and summary for Bolton PS 60% review workshop.

Assumptions

- General activities outlined in Contract Amendment 3 that are listed as “Applicable for all Facilities” are also applicable for the Bolton and River Street pump stations and included in this scope of work.
- Major equipment is defined as pumps, generator, fans, and flow meters.
- The CARV Vault and Intertie submittal package will be a draft complete set of plans, specifications, and estimate.

Task 8 –Prepare 90% Contract Documents (Existing Task Amended)

Objective

The purpose of this task is to develop 90% Contract Documents for Bid Set 2 – Bolton PS. It will also develop the plan sheets and specifications needed for River Street pump station to be added into Bid Set 3 - Clackamas, Timberline Rim, and River Street PS (Group 1).

Consultant shall:

- Review and address 60% design review comments from WES staff or other stakeholders.
- Prepare 90% Design level drawings for each bid set as noted in the Drawing List included in Attachment A.
- Prepare technical specifications package for Bolton Pump Station in Bid Set #2. Prepare HVAC specific specifications for River Street pump station to be included in Bid Set #3.
- Prepare Class 1 Construction Cost Estimate for each bid set.
- Update construction sequence and duration estimates.

Deliverables (for each of the additional bid sets, two (2) total)

- 90% Design Development Drawings, see attached Drawing List in Attachment A.
- 90% Construction Specifications
- 90% Construction Cost Estimate
- Meeting agenda and summaries for 90% review workshop for Bolton Pump Station (Bid Set #2).
- Documentation of resolution of District and other external stakeholder 60% review comments

Task 9 – Prepare Bid Documents (Existing Task Amended)

Objective

Prepare final, sealed contract documents to be used for publicly bidding the CARV Vault and Intertie replacement (Bid Set #1) and Bolton PS (Bid Set #2), plus finalizing the plans and specifications for the River Street Pump Station in Bid Set #3. In addition, early equipment procurement packages for WES to procure long lead equipment items at the Bolton PS will be prepared. Consultant shall:

- Prepare early equipment packages for pumps, control panels, and variable frequency drive (VFD) cabinets for the Bolton PS that include:
 - Pumps: Pump system curve and duty point, pump specification, and reviewed pump submittal package from Xylem.
 - VFD and Control Panels: Panel elevation drawings, bill of materials, wiring diagram, and specifications will be provided.

- Address District comments and modify the contract documents to address comments.
- Prepare reproducible final documents and submit to WES.

Deliverables

- Final stamped construction documents in PDF format for each additional bid set, two (2) total
- Early procurement packages in pdf format in draft and final versions
- Design drawing files in AutoCAD and PDF formats

Task 10 – Permits and Approvals (Existing Task Amended)

Objective

No additional land use review is needed for the River Street or Bolton pump station projects because the improvements will not expand the building area or use of the facility. The proposed HVAC are intended to bring the building into current NFPA 820 compliance and will comply with 2003 land use conditions of approval for noise limitations. The CARV vault and intertie replacement work is located within the City of West Linn right of way and does not require land use review. This work is subject to a Right of Way permit issued by the Public Work Department.

This amendment is documenting the following revisions to the scope of work. The level of effort originally estimated for this task is not changed. Originally, Sieben Lane, Golf Club Terrace, and South Welches pump station for Clackamas County were to be prepared in one land use application. Discussion with the Clackamas County Planning Department (see discussion below) is requiring each pump station to be submitted as a separate package. The additional work required to prepare separate applications is offset by removing Golf Club Terrace from the submittal package.

Meet Clackamas County land use submittal requirements outlined by Planning Department staff in the Pre-application meetings held on July 6th, 2021. The County planner assigned to the project confirmed the original assumptions included in this task that the Clackamas and Timberline Rim Pump Stations do not require land use approval. They also clarified that the Golf Club Terrace pump station will not need land use approval either, which was included in the original scope of work. Finally, the planning staff stated that each Clackamas County pump station will be required to submit a separate land use submittal package. The original scope assumed that the Clackamas County pump stations would be submitted into a single, combined land use submittal package.

Consultant shall:

- Prepare individual land use applications for each Clackamas County PS, to include Sieben Lane PS and South Welches PS.

Deliverables

- Separate Land Use Applications for the Sieben Lane PS and South Welches PS.

Assumptions

- Clackamas PS, Timberline Rim PS, and Golf Course Terrace PS will not require land use applications as noted from Pre-app meeting summaries.

- The CARV vault and intertie replacement project will not require land use review because the project is located within the public right of way.
- River Street PS and Bolton PS will not require land use review because the projects will not expand the building area or use of the facility. HVAC Improvements will comply with 2003 land use conditions of approval for noise limitations.

Task 11 - Bid Period Services (Existing Task Amended)

Objective

Provide support to WES staff during bid phase of for the additional two (2) bid sets for the CARV Vault and Intertie Improvements and Bolton Pump Station upgrades.

Consultant shall:

- Attend one (1) pre-bid conference for the Bolton PS.
- Review and respond to Bidder questions.
- Prepare technical material for addenda, as needed.
- Review bids as requested by the District.

Deliverables

- Technical material for addenda, as needed.

Assumptions

- Two (2) addenda are budgeted for the Bolton Pump Station project.
- No addenda needed for the CARV Vault and Intertie Improvements project.

Task 12 - Construction Engineering Services (New Task)

Objective

Provide engineering services to support the District's construction management and inspection staff during the construction of the CARV improvements with the following activities.

Activities

- Prepare health and safety plan
- Participate in the pre-construction conference with the District, Contractor, Sub-Contractors and other interested parties and answer questions necessary related to the final design.
- Provide Office engineering to include review, evaluation, and preparation of responses to contract submittals for conformance with the final design. Review and respond to Requests for Information (RFIs) or Clarification.

- Assist the District in evaluating contractor requests for change orders. Review and comment on the Technical aspects of the proposed changes, the effect on construction schedule, assist in negotiation of the change if necessary.
- Participate in project site meetings.
- Inspect on-site construction observations of work including:
 - Valve installation and operation
 - Vault lid foundation form work
 - Final inspection of completed project
- Prepare record drawings

Deliverables

1. Health and Safety Plan
2. Pre-construction meeting agenda and summary
3. Submittal review comments.
4. Responses to contractor RFIs.
5. Change Orders recommendations and responses.
6. Inspection summary reports.
7. Record Drawings, full size on bond paper, pdf files and dwg files.

Assumptions

1. CARV construction period will be three (3) months with approximately one (1) month of active, on-site construction. Four (4) on-site construction meetings are assumed during the on-site construction is occurring. If it becomes clear that additional time will be needed to maintain an established level of services through the completion of the project, Consultant shall notify WES immediately.
2. Budget for submittal review assumes up to eight (8) submittals and 25% resubmittal rate (for a total of 10 submittals) will be reviewed. Consultant will receive, review, and distribute pdf copies of contractor submittal review comments to owner. The Consultant will provide review comments to WES staff for major equipment submittals.
3. Budget for construction engineering support assumes up to five (5) RFI responses and one (1) change order request.

Anticipated Project Milestones

- The anticipated project schedule and milestones are outlined in Attachment B.

Attachments

- A: Updated Drawing List
- B: Anticipated Project Schedule

- C: Fee

ATTACHMENT A

DRAWING LIST

PUMP STATION REHAB AND UPGRADES

CLACKAMAS WES

The following list of drawings has been updated to include the Bolton and River Street pump stations improvements projects as outlined in Contract Amendment 5. Five bid set will be prepared with pump stations grouped as shown. Drawing for each discipline will be organized by facility.

*Denotes drawings to be included with 60% PS&E

Bid Set 1: Bolton and River Street Force Main CARV Vault and Intertie Improvements (10 drawings)

General (3 drawings)

Cover, Index, and Vicinity Map*
Symbols and Legend*
General Notes and Abbreviations*

Civil (4 drawings)

Erosion Controls Notes and Details*
Erosion Control Plan*
CARV Vault Plan and Details*
Intertie Valve and Details*

Mechanical (2 drawings)

Demolition Plan and Section*
Mechanical Plan and Section*

Details (1 drawing)

Miscellaneous Details*

Bid Set 2: Bolton Pump Station Improvements (55 drawings)

General (12 drawings)

Cover, Index, and Vicinity Map*
Design Data Table and System Curves*
Symbols and Legend
E&IC Legend, Symbols, and Abbreviations
General Notes and Legend
General Erosion Control Notes and Details
General Civil Details (2 sheets)
General Mechanical Details (2 sheets)
Electrical Standard Details
Instrument Standard Details

Civil (5 drawings)

Site Plan*
Erosion Control Plan*
Bypass Pumping Plan and Details*
CARV Replacement Plan and Details
Civil Details

Mechanical (11 drawings)

Electrical Room Demolition Plan*

- Pump Room Demolition Plan*
- Mechanical Demolition Section 1
- Mechanical Demolition Section 2
- Electrical Room Mechanical Plan*
- Pump Room Mechanical Plan*
- Pump Room Mechanical Section 1*
- Pump Room Mechanical Section 2
- Wet Well Rehabilitation and Coating Plan *
- Mechanical Details (2 drawings)

HVAC (4 drawings)

- HVAC Demolition Plan*
- Electrical Room HVAC Plan and Schedules*
- Electrical Room HVAC Elevations
- HVAC Details

Structural (5 drawings)

- Structural General Notes
- Quality Control Plan and Special Inspections
- Wall Penetration Reinforcement Details
- Pump Gantry Plan and Details*
- Wet Well Platform Elevation and Details*

Electrical (7 drawings)

- One-Line Diagram*
- Electrical Room Power Plan
- Electrical Lighting Plan
- Electrical Grounding Plan
- Electrical Panel Schedules
- Electrical Circuit Schedule
- Variable Speed Drive Cabinet Elevation (prepared for procurement package)
- Motor Control Diagrams (prepared for procurement package)

Instruments & Controls (11 drawings)

- P&ID
- Network Diagram
- Control Panel IO List (prepared for procurement package)
- Control Panel Layout 1 (prepared for procurement package)
- Control Panel Layout 2 (prepared for procurement package)

Control Panel Power Distribution (prepared for procurement package)
Control Panel Digital Inputs (prepared for procurement package)
Control Panel Digital Outputs (prepared for procurement package)
Control Panel Analog Inputs (prepared for procurement package)
Control Panel Analog Outputs (prepared for procurement package)
Control Demolition Plan

Bid Set 3: Drawings added for Schedule C: River Street Pump Station Improvements (18 drawings)

Mechanical (2 drawings)

- Mechanical Demolition Plan and Section*
- Mechanical Plan and Section

HVAC (3 drawings)

- HVAC Demolition Plan and Section*
- HVAC Plan and Schedules*
- HVAC Sections

Electrical (3 drawings)

- Electrical Demolition Plan*
- One-Line Diagram*
- Electrical Room Power Plan

Instrumentation & Controls (10 drawings)

- P&ID
- Control Panel IO List*
- Control Panel Layout 1*
- Control Panel Layout 2*
- Control Panel Power Distribution*
- Control Panel Digital Inputs*
- Control Panel Digital Outputs*
- Control Panel Analog Inputs*
- Control Panel Analog Outputs*
- Control Demolition Plan*

Pump Station Rehabilitation and Upgrades Project Schedule

ID	Task Name	Duration	2020	2021	2022	2023	2024
1	NTP	0 days					
2	Project Kickoff	0 days					
3	Bolton PS Schematic Design and Equipment Procurement	268 days					
28	CARV/Intertie Improvements	180 days					
57	Bolton PS	342 days					
58	Bolton PS Design	137 days					
59	60% PS&E	47 days					
61	WES Review	10 days					
62	90% PS&E	40 days					
64	WES Review	10 days					
65	Final Design	20 days					
67	WES Review	10 days					
68	PS Bid Phase	65 days					
70	Bolton PS Construction	140 days					
76	Group 1: Timblerline Rim, Clackamas PS, & River St	433 days					
77	Group 1 Design Phase	228 days					
87	Group 1 Bid Phase	65 days					
89	Group 1 Construction Phase	140 days					
92	Group 2: Gladstone & Sieben Lane PS	530 days					
93	Group 2 Design Phase	285 days					
94	60% PS&E	70 days					
97	WES Review	15 days					
98	90% PSE	60 days					

Project: Phase II Schedule: 2021/04/27

Date: Thu 1/02/21

Summary

Project Summary

External Tasks

Task

Split

Milestone

External Milestone

Inactive Milestone

Inactive Summary

Manual Task

Duration Only

Manual Summary Rollup

Manual Summary

Start-Only

Finish-Only

External Tasks

External Milestone

Progress

Deadline

Pump Station Rehabilitation and Upgrades Project Schedule

ID	Task Name	Duration	2020	2021	2022	2023	2024									
			Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
101	WES Review	15 days														
102	Final Design	80 days														
106	Group 2 Bid Phase	65 days														
108	Group 2 Construction Phase	180 days														
111	Group 3: South Welches, Golf Club Terrace, & 82nd Drive	635 days														
112	Group 3 Design Phase	370 days														
113	60% PS&E	70 days														
117	WES Review	15 days														
118	90% PSE	40 days														
122	WES Review	15 days														
123	Final Design	50 days														
127	WES Review	10 days														
128	Group 3 Bid Phase	65 days														
130	Group 3 Construction Phase	200 days														
134	Land Use Application and Review	531 days														
135	Prepare Land Use Apps	135 days														
136	Gladstone PS	30 days														
137	Sieben Lane PS	30 days														
138	South Welches / GCT PS	40 days														
139	Gladstone Land Use Review	20 wks														
140	Sieben Lane Land Use Review	20 wks														
141	South Welches Land Use Review	25 wks														
142	Pre App Mtgs	30 days														

Project: Phase II Schedule 2021/04/27

Date: Thu 10/21/21

Page 2

Summary |
 Task |
 Split |
 Milestone |
 Summary |
 Project Summary |
 External Tasks

External Milestone |
 Inactive Milestone |
 Inactive Summary |
 Manual Task |
 Duration-Only |
 Manual Summary Rollup |
 Manual Summary |
 Star-Only |
 Finish-Only |
 External Tasks |
 External Milestone |
 Progress |
 Deadline

PUMP STATION REHAB AND UPGRADES - AMENDMENT 5
 CLACKAMAS WATER ENVIRONMENT SERVICES
 PROPOSED FEE ESTIMATE

Principal Engineer I	Professional Engineer IX	Professional Engineer VII	Professional Engineer VI	Engineering Designer II	Engineering Designer I	Engineering Designer I	Engineering Designer I	Engineering Designer I	Engineering Designer I	Engineering Designer I	Technician IV	Engineering Designer VI	Administrative III	Administrative II	Hours	Labor	Subconsultants				Subconsultant Total with Markup	Expenses	Total	
																	Structural	Electrical	MEC	Architect				
\$183	\$213	\$162	\$154	\$100	\$102	\$107	\$105	\$95	\$135	\$161	\$136	\$117	\$73	\$76										
\$203	\$223	\$170	\$162	\$105	\$107	\$107	\$105	\$95	\$135	\$161	\$136	\$117	\$73	\$76										
Critts	Tafano	Preaga	Burmyer	Soto	Crow	Crow	Shareh	Shareh	Estep	Cliff	Riz	Haight	Stalberg											
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	144	\$ 24,645	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 24,645	
4	8	0	0	8	0	0	0	0	0	0	0	0	0	0	52	\$ 6,765	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,765	
4	12	0	0	16	0	0	0	0	0	0	0	0	0	0	48	\$ 6,786	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,786	
8	12	0	0	8	0	0	0	0	0	0	0	0	0	0	28	\$ 5,111	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,111	
0	24	60	0	0	0	0	0	0	0	0	0	0	0	0	84	\$ 15,585	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,585	
40	68	0	56	140	0	162	112	166	166	160	0	0	24	928	\$ 127,068	\$ 6,000	\$ 6,000	\$ 32,000	\$ -	\$ 25,800	\$ 200	\$ -	\$ 152,468	
56	60	0	4	140	36	136	88	92	100	100	0	0	8	770	\$ 96,852	\$ 8,700	\$ 6,000	\$ 15,390	\$ 3,000	\$ 34,745	\$ -	\$ -	\$ 131,692	
10	36	0	8	156	96	168	64	56	122	0	0	22	798	\$ 91,617	\$ 3,500	\$ 8,520	\$ 2,040	\$ 1,000	\$ 13,713	\$ -	\$ -	\$ -	\$ 105,330	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
4	4	0	0	12	4	0	0	8	0	0	0	0	0	32	\$ 4,479	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,479
57	0	0	0	83	0	40	0	0	0	0	0	0	0	180	\$ 24,136	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 24,136
255	224	60	68	563	136	554	264	322	382	60	12	54	294	\$ 403,084	\$ 16,200	\$ 20,520	\$ 29,430	\$ 4,000	\$ 78,658	\$ 200	\$ -	\$ -	\$ 476,942	